

OAK RIDGE NATIONAL LABORATORY

OPERATED BY

UNION CARBIDE NUCLEAR COMPANY

POST OFFICE BOX X
OAK RIDGE, TENNESSEE

DEC 29 1960

U. S. Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee

Attention: Dr. H. M. Roth

Gentlemen:

Subject: REQUEST FOR DIRECTIVE CR-306, SUPPLEMENT 1, "OFF-GAS SYSTEM
FOR ORR IN-PILE EXPERIMENTS, BUILDING 3042"

References:

1. ORNL General Plant Projects 524-601-ORL32 (Design)
and 524-61j-ORL14.
2. Letter dated June 10, 1960, C. E. Center to
S. R. Sapirie, "ORNL Containment Programs."
3. Interim Preliminary Proposal and Request for
Directive CR-306, "Off-Gas System for ORR In-Pile
Experiments, Building 3042," dated June 24, 1960.
4. Preliminary Proposal 306, "Off-Gas System for ORR
In-Pile Experiments, Building 3042," dated DEC 29 1960
5. Directive CL-246, "Off-Gas System for ORR In-Pile
Experiments, Building 3042," dated June 30, 1960. *68A 1096 #320*

Attached is Preliminary Proposal 306, "Off-Gas System for In-Pile
Experiments, Building 3042." Directive CL-246 authorized \$5,000 for
Titles I and II engineering services.

It is requested that Directive CL-246 be modified to authorize \$80,000 for
the entire project, of which \$5,500 is for cost-plus-fixed-fee contract
participation; \$49,300 for a Union Carbide Nuclear Company subcontract;
and \$25,200 for Union Carbide Nuclear Company participation. Distribution

CR-306

B-20

Dr. H. M. Roth

-2-

of funding: Titles I and II engineering, \$5,000 gross (524-601-ORL32); Title III engineering and construction, \$75,000 gross (524-61j-ORL14). It is anticipated that the installation work will start about March 15, 1961, and be completed by May 30, 1961.

Sincerely yours,

A. M. Heinberg
for

J. A. Swartout
Deputy Director

JAS:CAB:dhd

Enclosure: Preliminary Proposal 306

cc: C. E. Center
W. A. Bonnet
E. A. Bagley
J. A. Cox
W. L. Morgan
H. E. Seagren
R. B. Somers
Hezz Stringfield

PRELIMINARY PROPOSAL
306

"OFF-GAS SYSTEM FOR ORR IN-PILE EXPERIMENTS, BUILDING 3042"

DEC 29 1960

A. References:

1. ORNL General Plant Projects 524-601-ORL32 (Design) and 524-61j-ORL14.
2. Letter dated June 10, 1960, C. E. Center to S. R. Sapirie, "ORNL Containment Programs."
3. Interim Preliminary Proposal and Request for Directive CR-306, "Off-Gas System for ORR In-Pile Experiments, Building 3042," dated June 24, 1960, and Supplement 1, dated DEC 29 1960
4. Directive CL-246, "Off-Gas System for ORR In-Pile Experiments, Building 3042," dated June 30, 1960.

B. Justification of Basic Need:

The justification for this project is included in letter dated June 10, 1960 (Reference 2 above). A brief additional statement of justification follows:

A special off-gas system is needed at the ORR for experiments which contain gas under pressure. The ordinary off-gas system has many connections which are not designed to withstand pressure. A power outage failure of the off-gas system might result in the pressurized gas from the ORR experiments escaping through openings in the off-gas system both in Building 3042 and in other buildings. The completely separate off-gas system proposed will be designed to withstand pressure and to discharge directly into the Radioisotope Area Stack 3039. This arrangement will minimize the possibility of radioactive gas being released in various buildings connected to the regular off-gas system.

Description:

The project will consist of installing underground 10-inch and 6-inch stainless-steel pipes; a filter pit; a 2-inch stainless-steel hot drain line to the Tank Farm; and a 10-inch black steel pipe (overhead) from the filter pit to an existing off-gas exhauster.

The 6-inch line will extend from a valved connection at the west wall of Building 3042 and opposite the reactor pool at the first floor level (inside) to a 10-inch tee located southeast of Building 3042 and adjacent to Hillside Avenue. The 10-inch line will extend from that point south to the filter pit. The filter pit will be reinforced concrete approximately 9 feet by 11 feet by 7 feet with 18-inch-thick walls and roof.

The pit will be separated into two compartments with roughing filters, activated-charcoal filters and high efficiency filters in each. This arrangement will permit isolation of one compartment for changing filters without interruption of operations. Removable plugs in the roof will provide access to the filters. Hot drains, instrumentation and normal utility services will be installed. Approximately 70 feet of fencing will be installed to include the filter pit and overhead line within a regulated zone.

C. Preliminary Schematic Plans:

Drawing A - Plot Plan
Drawing B - Plan and Section

D. Outline Specifications:

Materials and specifications will conform to applicable codes, ORNL Standards for containment, and to Atomic Energy Commission design criteria.

E. Preliminary Estimate of Cost:

The total estimated cost of the project is (see accompanying estimate)
.....\$80,000.

SUMMARY

	<u>CPFF</u>	<u>L-S Sub</u>	<u>UCNC</u>	<u>Total</u>
<u>Direct Construction Costs</u>				
Site Preparation			800	800
Filter Pit	2,300	18,800	2,700	23,800
Off-Gas Lines, Stainless-Steel		15,300		15,300
Off-Gas Line, Black Steel	2,000			2,000
Hot Drains, Stainless-Steel		9,400		9,400
Fencing		1,300		1,300
Instrumentation			5,700	5,700
Connections			1,100	1,100
<u>*Engineering</u>				
Titles I, II, and III			6,400	6,400

	<u>CPFF</u>	<u>L-S Sub</u>	<u>UCNC</u>	<u>Total</u>
<u>Indirect Costs</u>	700		2,600	3,300
<u>Allowance for Contingencies</u>	<u>500</u>	<u>4,500</u>	<u>5,900</u> 1/	<u>10,900</u>
Total Gross Project Cost	5,500	49,300	25,200	80,000

*Net

1/More than normal 10% to allow for possible contamination

UNIT COST

Not applicable

F. Proposed Starting and Completion Dates:

	<u>Start</u>	<u>Complete</u>
<u>Engineering</u>		
Design	6-60	1-61
Inspection	3-61	5-61
<u>Construction</u>		
Contract	3-61	5-61
Union Carbide Nuclear Company	3-61	5-61

G. Division of Work:

Union Carbide Nuclear Company will furnish engineering services, filters, instrumentation, and miscellaneous assistance to contractors. A cost-plus-fixed-fee contractor will provide the excavation for the filter pit and install the overhead line, both of which are located in areas where contamination could possibly exist. The balance of the work will be performed by a lump-sum subcontractor.

H. Risks and Exposure Hazards:

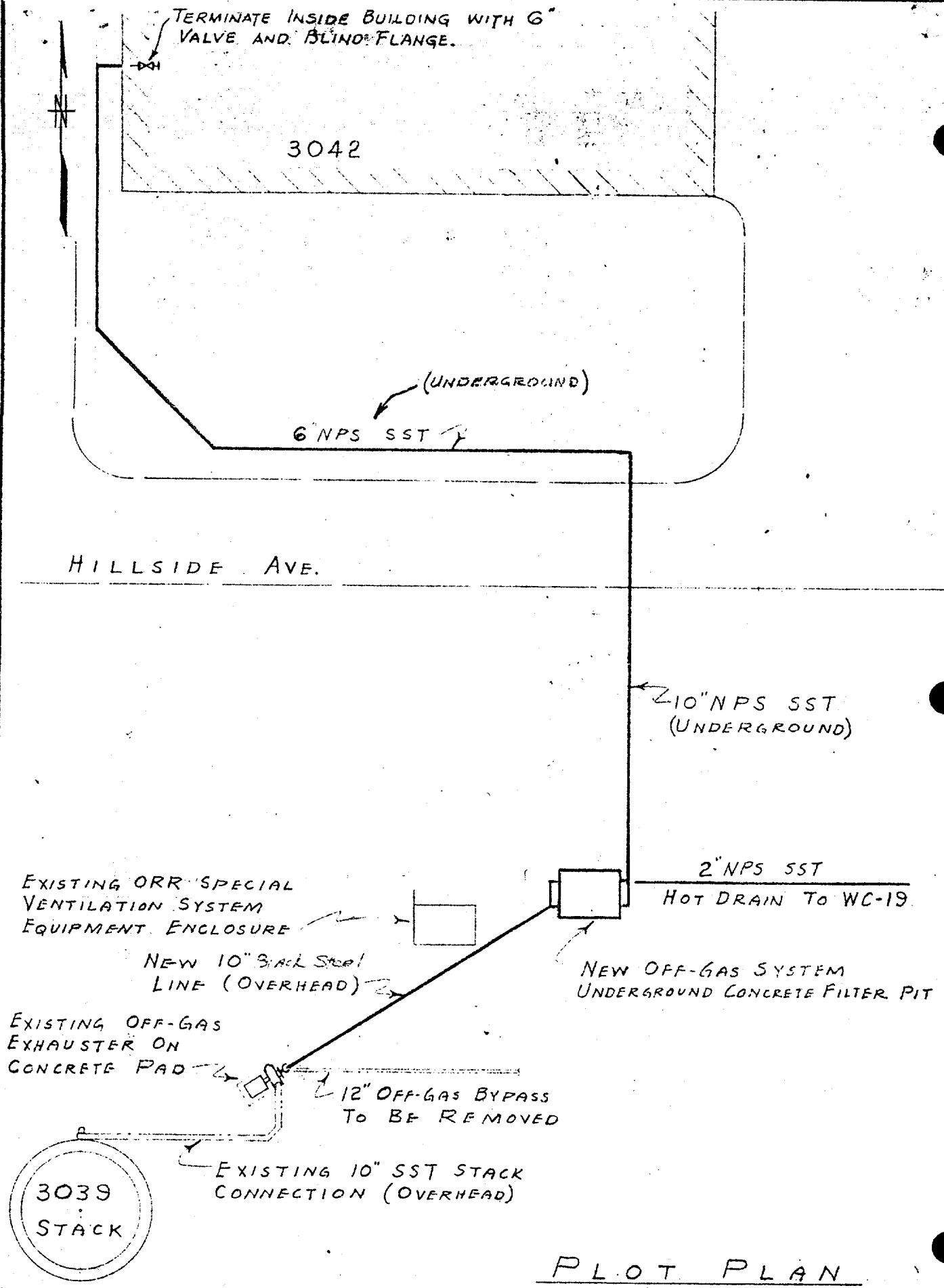
A fire hazard will exist in the possibility of ignition of the charcoal filters; however, the filter pit will be designed to include instrumentation to detect a fire and automatically isolate the compartment. There will be no other abnormal risks involved in the operation of the installation.

PRELIMINARY ESTIMATE

OFF-GAS SYSTEM FOR ORR IN-PILE EXPERIMENTS,
BUILDING 3042

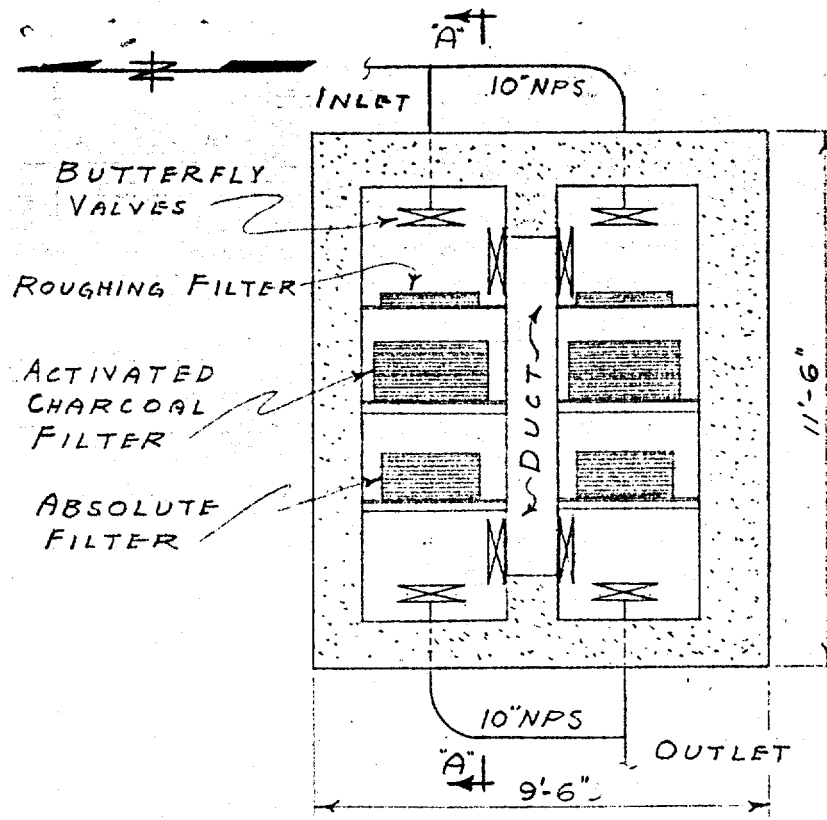
	<u>CPFF</u>	<u>L-S SUB</u>	<u>UCNC</u>	<u>TOTAL</u>
<u>Direct Construction Costs</u>				
<u>Site Preparation</u>				
Clean drains and shield exposed off-gas line			800	800
<u>Filter Pit</u>				
Excavation	2,300			2,300
Concrete		4,800		4,800
Piping		8,100		8,100
Filter Racks		4,400		4,400
Filters			2,700	2,700
Paint		800		800
Backfill		700		700
<u>Off-Gas Lines</u>				
6-inch and 10-inch Stainless- steel (underground)		15,300		15,300
10-inch Black Steel (overhead)	2,000			2,000
<u>Hot Drain</u>				
Stainless-steel Floor Drains and 2-inch Pipe		9,400		9,400
<u>Fencing</u>		1,300		1,300
<u>Instrumentation</u>			5,700	5,700
<u>Connections</u>			1,100	1,100
<u>Engineering</u>			6,400	6,400
<u>Sub-Total Net</u>	4,300	44,800	16,700	65,800

	<u>CPFF</u>	<u>L-S SUB</u>	<u>UCNC</u>	<u>TOTAL</u>
<u>Indirect Costs</u>	700		2,600	3,300
<u>Contingencies</u>	<u>500</u>	<u>4,500</u>	<u>5,900</u>	<u>10,900</u>
Total Gross Cost	5,500	49,300	25,200	80,000



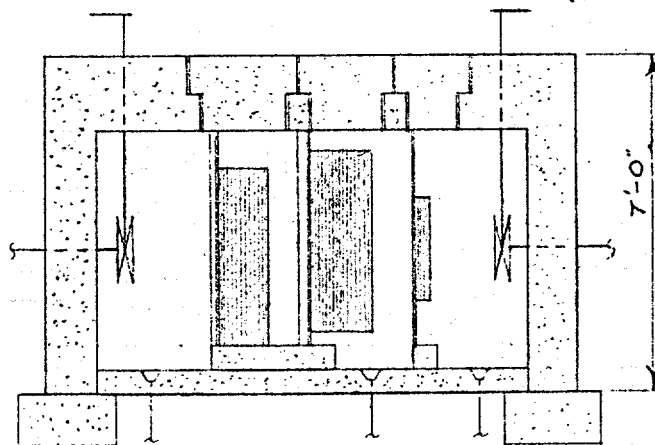
PLOT PLAN
ADDITIONAL HOT OFF-GAS SYSTEM-ORR
DRAWING A

NOT CLASSIFIED
A-39107 RI



P L A N

SCALE: 1/4\"=1'-0\"



S E C T I O N "A-A"

P L A N & S E C T I O N
ADDITIONAL HOT OFF-GAS SYSTEM - ORK
F I L T E R P I T
D R A W I N G B

NOT CLASSIFIED
A-39108 RI

CORRECTION NOTICE

January 5, 1960

Subject: REQUEST FOR DIRECTIVE CR-306, SUPPLEMENT 1 AND
PRELIMINARY PROPOSAL 306, "OFF-GAS SYSTEM FOR ORR
IN-PILE EXPERIMENTS, BUILDING 3042"

On the subject documents please make the following corrections:

The date of December 29, 1960, should be added to the top of Request for Directive CR-306, Supplement 1, and after the word "dated" in Reference 4. Also add the date of December 29, 1960, to the first page of Preliminary Proposal 306 and after the word "dated" in Reference 3.

CORRECTION NOTICE

68A1096 #320

CELL VENTILATION FILTER
Removal Area, Stack

OAK RIDGE NATIONAL LABORATORY

CELL VENTILATION FILTERS, RADIOISOTOPE AREA, STACK 3039

PRELIMINARY PROPOSAL

299

A-5982

100 14 0100

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Drawing B - Plan	
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Estimate	

CELL VENTILATION FILTERS, RADIOISOTOPE AREA, STACK 3039

This proposal describes the installation of a filter housing, filters and related equipment for removing radioactive particulate matter from the cell ventilation systems located in the Radioisotope Area.

A. References:

1. Letter, dated April 29, 1960, S. R. Sapirie to C. E. Center, "ORNL Containment Program."
2. Request for Directive CR-299, "Cell Ventilation Filters, Radioisotope Area, Stack 3039," dated June 14, 1960.

B. Justification of Basic Need:

In order to insure that particulate matter carried by exhaust air from the hoods, cells, and shielded processing operations in the Radioisotope Area does not reach the Stack Area and become air-borne, it is necessary that cell ventilation filters be installed. This central installation will serve the entire Radioisotope Area and will eliminate the need for the installation of many separate units to service individual buildings. A single filter housing is preferred because of economy in construction and in normal operation and maintenance. Filtering only the air from the Radioisotopes Area, the filters will handle less volume and less radioactivity than the filters at Stack 3039 and also will back up the stack filters to give a double line of protection.

The reduction in particulate radioactivity reaching the large exhaust fans at the base of Stack 3039 will simplify the maintenance of the fans by reducing the surface contamination from adhering particles.

Description:

The outside dimensions of the housing for the filters will be approximately 23 feet wide by 29 feet long, arranged in two compartments situated at two-grade levels and separated by a common wall. The height of the compartments will be about 8 feet. The housing will be installed into the side of an existing slope and the two-grade levels would minimize the excavation and backfill. The walls of the housing will be reinforced concrete about 1 foot 6 inches thick for radiation shielding. Each compartment will be equipped with roughing filters and high efficiency ("Final") filters. Access to the filters will be through removable concrete plugs in the roof of the housing. The upstream duct (approximately 5 feet by 5 feet) will be concrete; the

downstream duct (approximately 4 feet by 6 feet) will be heavy gage steel plate braced with angle iron. Dampers will be installed in the ducts for shutting off the air flow to allow for the changing of the filters. A temporary bypass duct will be installed to prevent interruption to the existing ventilation service during construction.

Instrumentation, utility services, and radioactive drainage from the filter house will be provided.

C. Preliminary Schematic Plans:

Drawing A - Plot Plan

Drawing B - Plan

Drawing C - Section "A-A"

D. Outline Specifications:

Materials and installation will conform to applicable codes and to Atomic Energy Commission design criteria.

E. Preliminary Estimate of Cost:

The total estimated cost of the project is (see accompanying estimate)
\$92,000.

SUMMARY

	<u>CPFF</u>	<u>UCNC</u>	<u>Total</u>
<u>Direct Construction Costs</u>			
Filter Housing	10,400		10,400
Filters and Dampers	9,000	2,000	11,000
Ducts	30,100	4,400	34,500
Radioactive Drains	5,600	1,800	7,400
Improvements to Land	1,100		1,100
Instrumentation		1,300	1,300
<u>*Engineering</u>			
Design		4,600	4,600
Inspection		1,800	1,800

	<u>CPFF</u>	<u>UCNC</u>	<u>Total</u>
<u>Indirect Costs</u>	8,300	3,000	11,300
<u>Allowance for Contingencies</u>	<u>6,800</u>	<u>1,800</u>	<u>8,600</u>
TOTAL GROSS PROJECT	71,300	20,700	92,000

*Net

UNIT COST

Not Applicable

F. **Proposed Starting and Completion Dates:

	<u>Start</u>	<u>Complete</u>
<u>Engineering</u>		
Design	6-60	8-60
Inspection	9-60	1-61
<u>Construction</u>		
Contract	9-60	1-61
Union Carbide Nuclear Company	9-60	1-61

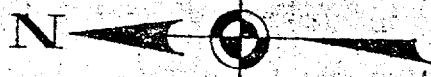
**Pending availability of supplemental fiscal year 1960 or fiscal year 1961 General Plant Project funds.

G. Division of Work:

Union Carbide Nuclear Company will furnish engineering, furnish and install filters, instrumentation and connections to utilities and existing ducts. The balance of the work will be performed by a cost-plus-fixed-fee contractor.

H. Risks and Exposure Hazards:

The installation of filters will further reduce the possibility of excessive air-borne particulates entering the off-gas Stack 3039. The thickness of the concrete walls and roof of the filter housing provides necessary shielding. There are no abnormal risks involved in the operation of the installation.



BLDG.
3028

EXISTING 60"
RCP - UNDERGROUND

EXISTING
EQUIPMENT
ENCLOSURE

NEW 60"x60" UNDERGROUND
PIT INLET CONNECTION

NEW FILTER
PIT

NEW 72"x48" PIT OUTLET
CONNECTIONS

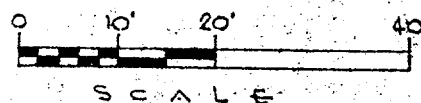
EXISTING
72"x72" DUCT

EXISTING 72"x60" DUCT

EXISTING
48" ϕ BY-PASS

STACK
3039

CONCRETE
CURB



PLOT PLAN
CELL VENTILATION FILTERS
RADIOISOTOPE AREA

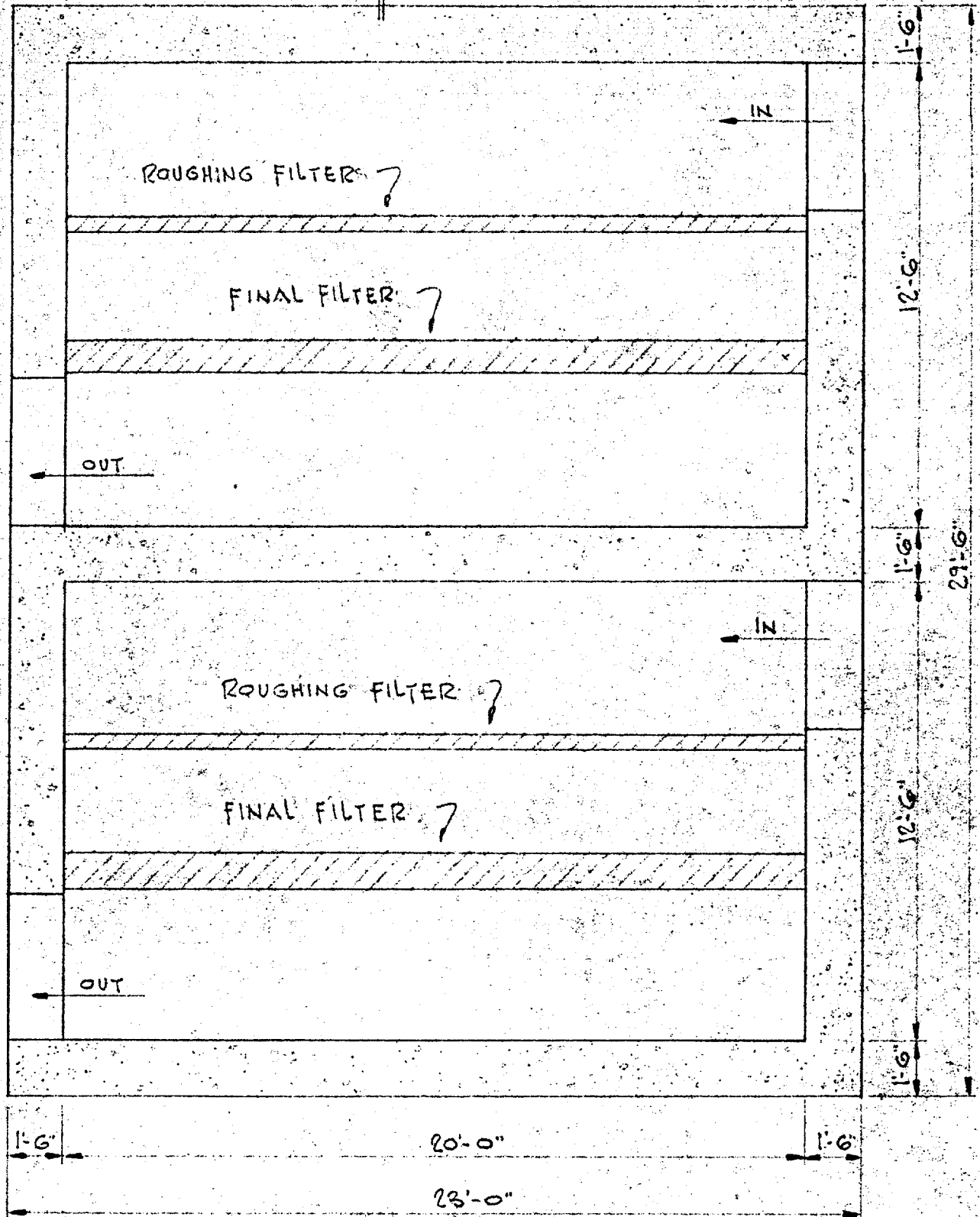
NOT CLASSIFIED

A-39050 R1

DRAWING A



"A" ←



"A" ←

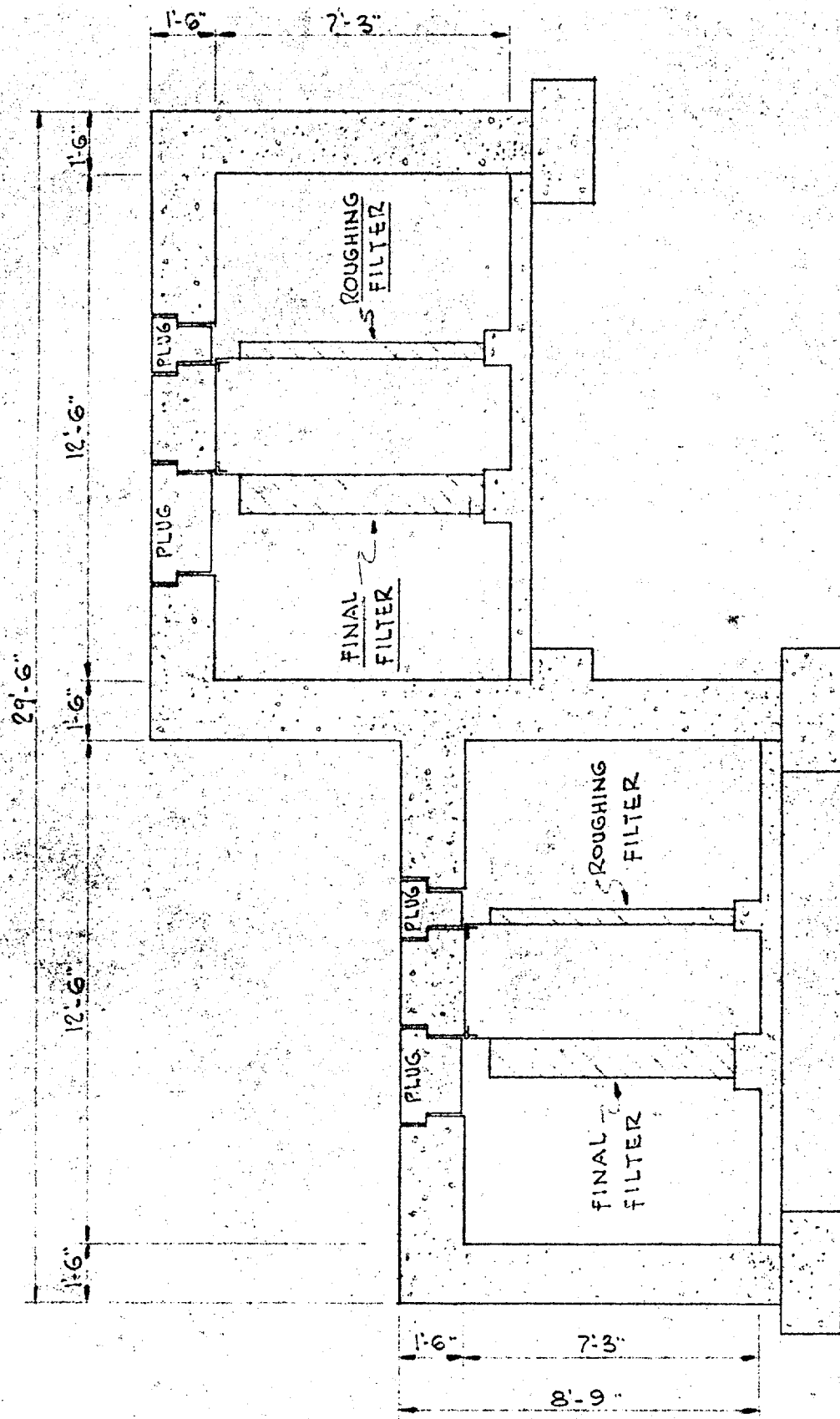
PLAN

RADIOISOTOPE VENTILATION FILTERS
FILTER RADIOISOTOPE AREA

NOT CLASSIFIED

A-39051 R2

DRAWING B



SECTION "A-A"

CELL VENTILATION FILTERS
 RADIOISOTOPE AREA

NOT CLASSIFIED

A-39052 R2

DRAWING C

ESTIMATE

CELL VENTILATION FILTERS, RADIOISOTOPE AREA, STACK 3039

Preliminary Proposal

299

	<u>CPFF</u>	<u>UCNC</u>	<u>Total</u>
<u>Filter Housing</u>			
Earthwork	1,000		1,000
Concrete	<u>9,400</u>		<u>9,400</u>
Sub-Total	10,400		10,400
<u>Ducts</u>			
Earthwork	400		400
Concrete Duct	8,900	1,000	9,900
Steel Duct and Framing	<u>20,800</u>	<u>3,400</u>	<u>24,200</u>
Sub-Total	30,100	4,400	34,500
<u>Filters and Dampers</u>	9,000	2,000	11,000
<u>Radioactive Drainage</u>	5,600	1,800	7,400
<u>Improvements to Land</u>			
Storm Drain	100		100
Paving	<u>1,000</u>		<u>1,000</u>
Sub-Total	1,100		1,100
<u>Instrumentation</u>		1,300	1,300
<u>Engineering</u>			
Design		4,600	4,600
Inspection		<u>1,800</u>	<u>1,800</u>
Sub-Total		6,400	6,400
TOTAL NET PROJECT COST	<u>56,200</u>	<u>15,900</u>	<u>72,100</u>

C. S. Shoup, Chief, Biology Branch
Research and Development Division

November 13, 1961

R. L. Hervin, Health Physicist
Biology Branch, Research and Development Division

PRELIMINARY PROPOSAL NO. 310-CHEMICAL WASTE DISPOSAL - Y-12 PLANT

ORB:RLH

The following is a resume of answers to the questions raised by you and Joe Lenhard:

1. What presently goes into stream? Compare with the records we had earlier. What is the stream flow and average concentration of the toxic materials?

The stream flow is around 6.5 million gallons per day and contains the following major toxic materials:

<u>Material</u>	<u>Peak Limits</u>	<u>Concentration</u>	
		<u>Acceptable Limits</u>	<u>Expected Limits</u>
Nitrate	100	45	10
Sulfate	735	500	60
Chloride	575	100	62
Hypochlorite	14	1	14
Copper	1	1	<1
Cyanide	0	0	0
Chromium	.2	.05	.03
PH	4 to 10	6.8 to 8.6	6.8 to 8.6

The average concentration would be around 75% of the Peak Limits. However, it should be noted that the toxicants move downstream as a slug and the lagoon would smooth out the peak concentrations by mixing, settling and dilution. The above concentrations are about the same as previously reported.

2. This proposal only relieves wastes from one facility in 9206. The other wastes will still be discharged to the stream as before. What will the pipeline carry to the waste pits?

The diversion of wastes from 9206 to the S-3 ponds will eliminate the majority of the acid wastes now being discharged to the creek.

8194

Deep

REV 1 3 1961

3. Mention is made of having cleaned up some wastes at this source -- What exactly has this been?

Primarily this will be the coordination of waste discharges at the source in order to assure proper pH, etc., for mixing in the lagoon.

There will probably be a proposal to convert the cyanide for commercial distribution. There is about 2-3,000 gallons generated per day.

Wastes from the electroplating shop can be picked up and slurried into burial pits similar to beryllium wastes.

4. The only purpose of the largest chunk of the cost (around \$40,000 pipeline and \$180,000 lagoon) is to control pH better and get some settling possibly -- What do they expect it to settle out?

The lagoon will settle out the carbon, coal dust, and should remove over 90% of the settleable solids which normally runs from a few hundred to a maximum of 1,000 PPM.

5. We should not ignore the fact that the proposed location of the lagoon is very noticeable from all roads in the area and would be an unhappy location for an unsightly settling basin.

The settling basin should be an improvement and should be an attraction rather than a deterrent from a scenic standpoint. There should not be any accumulation of algae due to the flow and the settleable solids may in time be a problem but can be easily corrected by draining the lagoon and bulldozing.

There is no question concerning the necessity of correcting the waste disposal problem involving Poplar Creek. The routing of acid wastes from Building 9206 via pipeline to 9212 appears necessary and this portion of the proposal should be approved. However, consideration should be given to the following item prior to approval of the lagoon portion of the proposal:

1. We have concluded that Preliminary Proposal No. 310 covers and integrates overall liquid waste treatment program as requested in our letter of March 24, 1961, rather than an initial increment in a program as indicated in the first sentence of B, page 4 of the report. The overall program would include the following:
-

CONF - BACK
4P

NOV 20 1961

C. A. Keller, Director
Production Division

Herman M. Roth, Director
Research and Development Division

Y-12 PROPOSAL - CHEMICAL WASTE DISPOSAL

ORR:JAL
Chief, Biology Branch
Development Division

November 13, 1961

Mr. Martin, Health Physicist

We have reviewed Y-12 Preliminary Proposal Number 310 and have the following comments:

PRELIMINARY PROPOSAL NO. 310 - CHEMICAL WASTE DISPOSAL - Y-12 PLANT

1. The acid waste line from building 9206 to 9212 is very desirable. This is probably the strongest part of the proposal.

2. The lagoon which is proposed can undoubtedly control the acidity problem and will probably serve to "average" the other chemical waste concentration. We believe that Y-12 should be encouraged to continue attacking the overall problem at its source as they are proposing for the NaOCl situation. ORNL has done this with amazing success on their radioactive waste disposal problem.

3. The S-3 ponds will probably need enlarging very soon due to diminishing adsorption capacity of the existing ponds.

4. While Y-12 assures us that the lagoon will become a local scenic attraction, we wish to point out that the lagoon would be in prominent view from all roads in that area and could be unattractive. The need for a fence should be checked with Safety. The K-25 lakes are very attractive and have no fences - perhaps Y-12 could accomplish this.

We recommend approval of the proposal on a technical basis and further suggest that Y-12 increase their effort to clean up the sources of these chemical wastes.

ORIGINAL SIGNED BY

HERMAN M. ROTH, Director of the Plant Limits.
Herman M. Roth

The average concentration of the waste is 100 ppm. However, it should be noted that the waste is a sludge and the lagoon would dilute the peak concentrations by mixing. The peak concentrations are about the same as previously reported.

Y 8376

OFFICE ▶	Biology Br.	Res. & Dev.	APPROVED	CR-310 (Y-12)
SURNAME ▶	Lenhard	Roth		
DATE ▶	11/16/61	11/20/61		

November 13, 1961

- a. The NaOCl (1 ton/day) problem will not be solved by a lagoon and hence, it is suggested that we strongly recommend to UCNC that they put immediate emphasis on disposal of the NaOCl with preference of using the material as a chlorinating agent as covered on page 9 of the report.
- b. Enlarge the capacity of the S-3 ponds as present ponds are diminishing in absorption capacity.
- c. It should be recognized that it may be necessary to put in baffles or other means to assure mixing after the lagoon is built and it is assumed that this has been considered in the proposal.
- d. The necessity of a fence should be considered from a safety (public) standpoint.

It appears that the use of a mixing-settling basin such as proposed could do the job and also afford some protection against massive *chemical* spillage. As a minimum, I would recommend approval of the rerouting of the waste stream from 9206 to 9212 and a strong recommendation to UCNC on finding a solution to the NaOCl problem.

ORIGINAL SIGNED BY

R. L. Herwin

OFFICE ▶	Biology Br.					
SURNAME ▶	Herwin:rd					CR-310-4-12
DATE ▶	11/ /61					

UNITED STATES GOVERNMENT

Memorandum

TO : C. S. Shoup, Chief, Biology Branch
Research and Development Division

DATE: November 13, 1961

FROM : R. L. Hervin, Health Physicist
Biology Branch, Research and Development Division

SUBJECT: PRELIMINARY PROPOSAL NO. 310-CHEMICAL WASTE DISPOSAL - Y-12 PLANT

ORB:RLH

The following is a resume' of answers to the questions raised by you and Joe Lenhard:

1. What presently goes into stream? Compare with the records we had earlier. What is the stream flow and average concentration of the toxic materials?

The stream flow is around 6.5 million gallons per day and contains the following major toxic materials:

<u>Concentration</u>			
<u>Material</u>	<u>Peak Limits</u>	<u>Acceptable Limits</u>	<u>Expected Limits</u>
Nitrate	100	45	10
Sulfate	735	500	60
Chloride	575	100	62
Hypochlorite	14	1	14
Copper	1	1	<1
Cyanide	0	0	0
Chromium	.2	.05	.03
PH	4 to 10	6.8 to 8.6	6.8 to 8.6

The average concentration would be around 75% of the Peak Limits. However, it should be noted that the toxicants move downstream as a slug and the lagoon would smooth out the peak concentrations by mixing, settling and dilution. The above concentrations are about the same as previously reported.

2. This proposal only relieves wastes from one facility in 9206. The other wastes will still be discharged to the stream as before. What will the pipeline carry to the waste pits?

The diversion of wastes from 9206 to the S-3 ponds will eliminate the majority of the acid wastes now being discharged to the creek.

CR-310(Y-12)

November 13, 1961

3. Mention is made of having cleaned up some wastes at this source -- What exactly has this been?

Primarily this will be the coordination of waste discharges at the source in order to assure proper pH, etc., for mixing in the lagoon.

There will probably be a proposal to convert the oxychloride for commercial distribution. There is about 2-3,000 gallons generated per day.

Wastes from the electroplating shop can be picked up and slurried into burial pits similar to beryllium wastes.

4. The only purpose of the largest chunk of the cost (around \$40,000 pipeline and \$180,000 lagoon) is to control pH better and get some settling possibly -- What do they expect ~~it~~ to settle out?

The lagoon will settle out the carbon, coal dust, and should remove over 90% of the settleable solids which normally runs from a few hundred to a maximum of 1,000 PPM.

5. We should not ignore the fact that the proposed location of the lagoon is very noticeable from all roads in the area and would be an unhappy location for an unsightly settling basin.

The settling basin should be an improvement and should be an attraction rather than a deterrent from a scenic standpoint. There should not be any accumulation of algae due to the flow and the settleable solids may in time be a problem but can be easily corrected by draining the lagoon and bulldozing.

There is no question concerning the necessity of correcting the waste disposal problem involving Poplar Creek. The routing of acid wastes from Building 9206 via pipeline to 9212 appears necessary and this portion of the proposal should be approved. However, consideration should be given to the following item prior to approval of the lagoon portion of the proposal:

1. We have concluded that Preliminary Proposal No. 310 covers and integrated overall liquid waste treatment program as requested in our letter of March 24, 1961, rather than an initial increment in a program as indicated in the first sentence of B, page 4 of the report. The overall program would include the following:

*I do
not
agree
Larkins*

November 13, 1961

- a. The NaOCl (1 ton/day) problem will not be solved by a lagoon and hence, it is suggested that we strongly recommend to UCNC that they put immediate emphasis on disposal of the NaOCl with preference of using the material as a chlorinating agent as covered on page 9 of the report.
- b. Enlarge the capacity of the S-3 ponds as present ponds are diminishing in adsorption capacity.
- c. It should be recognized that it may be necessary to put in baffles or other means to assure mixing after the lagoon is built and it is assumed that this has been considered in the proposal.
- d. The necessity of a fence should be considered from a safety (public) standpoint.

It appears that the use of a mixing-settling basin such as proposed could do the job and also afford some protection against massive *chemical* spillage. As a minimum, I would recommend approval of the rerouting of the waste stream from 9206 to 9212 and a strong recommendation to UCNC on finding a solution to the NaOCl problem.

R. L. Herwin
R. L. Herwin

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ChemRisk Repository Number: 1245 Document Number: NAC 68A 1096 #320

Title: "National Archives Center 68A 1096 #320 Proposals for Off-gas and Ventillation Systems"

Authors: None

Abstract: The box contains three preliminary proposals which may be of interest to the ORDR study. 1) Off-gas System for ORR In-pile Experiment, Building 3042. This document was chosen to assure, if project was approved, that there was an off-gas system in place. The document is nothing more than a proposal for the system and does not have a detailed design of system. 2) Ventilation Filter for a Stack 3039. This document was chosen to assure, if project was approved, that there was ventilation for the stack. The document itself is only a proposal and detailed information must be found elsewhere. 3) Chemical Waste Disposal for the Y-12 Plant. These memos discuss concentrations of toxic material from the Y-12 plant.

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